

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 5, 2009 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 2, 4-9, 11-13, 15-19, 21-23, 25-27, 29, 32, 35 and 37-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no disclosure of a "non-coated side of the component, opposing the surface having the thermal barrier ceramic coating" in the specification as originally filed. Although Applicant discloses a side of the component opposing the surface having

Art Unit: 3726

the thermal barrier ceramic coating, however Applicant does not disclose the side as being a "non-coated" side.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 2, 4-9, 11-13, 15-19, 21-23, 25-27, 29, 32, 35 and 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 8 and 18 recite the limitation "the surface having the thermal barrier ceramic coating" in lines 3-4, 5-6, and 7-8 respectively. There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4-9, 11-13, 15-19, 21-23, 25-27, 29, 32, 35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farmer et al. (US Patent 6,663,919) in view of Sangeeta et al. (US Patent 5,796,265).

Art Unit: 3726

With regards to claims 1, 2, 4-9, 11-13, 15-19, 21-23, and 25-27, Farmer et al. discloses a process for removing thermal barrier ceramic coatings from laser drilled cooling holes of turbine hot section components (col. 3, lines 8-18), the method comprising directing a liquid jet at an non-coated side of the component opposing the surface having the thermal barrier ceramic coating (col. 3, lines 29-31), the jet containing a non-abrasive spherical particulate media (col. 6, line 7) and emitting the media from a nozzle of the jet at a low pressure wherein the low pressure is insufficient for the media to damage a substrate but the low pressure is sufficient for the media to remove the thermal barrier ceramic coating from the cooling holes (col. 3, lines 31-40), the jet directed at the cooling holes at substantially the same angle as the cooling holes (col. 6, lines 35-37), wherein the jet with the spherical media rounds the metallic edges of the cooling holes (col. 7, lines 11-30) and wherein a bond coat is interposed between the thermal barrier ceramic coating and the substrate (col. 4, lines 62-65). Farmer et al. discloses that various fluids could be used for the jet (col. 5, line 62), but does not specifically disclose using an air jet. However Sangeeta et al. discloses a process for removing an aluminide-containing material from a metallic substrate surface (col. 1, lines 11-19 and col. 2, lines 26-28), the method comprising directing an air jet at the aluminide-containing material on the substrate surface of the component, the jet comprising non-abrasive particulate media such as glass beads, the average particle size being less than 500 microns, the air jet being directed at the aluminide-containing material at a pressure less than about 40 psi sufficient to remove the aluminide-containing material but insufficient to damage the substrate surface, see column 5, lines

Art Unit: 3726

54-67, column 7, lines 53-67 and column 8, lines 1-4. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an air-jet non-abrasive blasting process as taught by Sangeeta et al. in the process of Farmer et al., in order to remove thermal barrier coatings without damaging the underlying material. Applicant should note that the cooling holes in Farmer et al. are drilled prior to thermal barrier ceramic coating application.

Regarding claims 29, 32 and 35, Applicant should note that such bond coatings are conventional in the art, see for example column 4, lines 65-67 of Farmer et al.

Regarding claims 37-39, Applicant should note that the process of Farmer et al./Sangeeta et al. could be used for “non-degraded” thermal barrier ceramic coatings, meaning those who have not been put to use.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 2, 4-9, 11-13, 15-19, 21-23, 25-27, 29, 32, 35 and 37-39 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (571) 272-4532. The examiner can normally be reached on M-F 9-6:30, 1st Friday off.

Art Unit: 3726

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Essama Omgba/
Primary Examiner, Art Unit 3726

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October 22, 2009